Orienting preservice teachers towards gifted education: School-university partnerships

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Addressing the needs of gifted students is predicated on an understanding of many factors not least the nature of giftedness, appropriate curriculum design and specialist pedagogical practices. Knowledge needs to be acquired in context. Preservice teacher education programs tend to focus on pedagogical practices and present preservice teachers with content related to inclusive philosophies, strategies for teaching, and assessment techniques. Many preservice teachers do not have an awareness of the nature of giftedness or understandings around models of curriculum advocated for gifted education, despite practicum experiences and university education. This paper presents two case studies that describe interventions constructed through partnerships with schools to raise awareness of the nature of giftedness and provide concrete experiences for preservice teachers' interactions with gifted students. It will report strategies through which preservice teachers become engaged with gifted students in regular classrooms. Qualitative and quantitative evidence will be presented on the effectiveness of these models.

Background

Inclusive education policies have challenged preservice teacher education programs to equip beginning teachers with the capabilities to address the needs of exceptional children in mainstream classrooms (Carrington & Bailey, 2000; Jobling & Moni, 2004). This includes preparing teachers for teaching gifted students. This point was made in the *Report of the Select Committee on the Education of the Gifted and Talented Children* (Parliament of the Commonwealth of Australia,1988) that stated, "Most pre-service teacher education courses in Australia offered, at most, a few lectures on gifted education or an elective unit, often within the context of Special Education" (paragraph 7.19). Recommendation 2 of the Senate Review of Gifted Education chaired by Senator Collins recommended that preservice training courses include sufficient information about gifted students to make student teachers aware of the needs of those children and the special identification techniques and teaching strategies which the student teachers will have to use with the gifted on graduation. Some funding was provided to support academic staff in education faculties to develop the necessary background knowledge and skills to introduce programs for preservice teachers. However, there is scant research into the level of uptake or outcomes of this initiative although anecdotal evidence suggests that a number of institutions participated.

Taylor and Milton (2006) have examined the extent of university coursework for gifted education and whether preservice teachers are provided with relevant competencies and skills

for educating these students. Taylor and Milton argue that if teachers do not have specific training in gifted education they will struggle to provide appropriate programs. The minimum requirements they advocated included familiarisation with the characteristics of giftedness, methods for identifying gifted students, devising and implementing appropriate curricula and heightened awareness of problems experienced by gifted students when their educational and social needs are neglected. The most recent review of preservice offerings continues to identify a lack of commitment on the part of Teacher Education Faculties and Schools to gifted education (Fraser-Seeto, 2013). In New Zealand, a two-year longitudinal study revealed a similar level of concern especially among parents about preservice teacher education not successfully integrating principles of gifted education into the teacher education curriculum (Keen, 2005).

However, at the time of the senate review (Parliament of the Commonwealth of Australia, 1988), which remains the prevailing situation, university education is a state responsibility albeit federally funded. The senate review's recommendations carry limited weight in influencing university courses. Most preservice primary and secondary teacher courses are four-year undergraduate Bachelor of Education (BEd) degrees or postgraduate diplomas of education currently of one-year duration. Although university courses are developed independently of regulating bodies there are limitations and constraints in so far as programs require some form of accreditation. Professional bodies in all domains from medicine, engineering to accountancy set out standards or generic attributes that they expect graduates to meet as a consequence of their university training. Recently in Australia there have been moves to have a national accreditation body. Although state authorities (e.g. Queensland College of Teachers [QCT]) still hold some responsibility for teacher registration, universities are currently re-writing their education courses so graduates demonstrate the Australian Standards for Graduate Teachers (Australian Institute for Teachers and School Leadership [AITSL], 2013). Of interest to this study is that there is no specific standard related to preservice teachers teaching gifted students. However, there are standards concerned with the recognition that learning experiences should be flexible, intellectually challenging, inclusive to all leaners and supportive of students with diverse learning needs and backgrounds (e.g., AITSL, 2013).

To meet the AITSL (2013) standards across multiple areas can be a substantial challenge as there are many competing agendas to be covered in preservice core units. It seems in a four-

year degree with 32 units of study there would be ample opportunity to focus on how to support gifted students in the classroom. However, the treatment of issues of identification and specific teaching strategies for gifted students can often be presented in generalisations, with a more detailed presentation of these issues left to elective units which are not taken by all preservice teachers. Preservice teacher education programs tend to focus on the theoretical principles of teaching and learning, the purpose of education, and curriculum design. Universities rely on practicum for this knowledge to be contextualised and interpreted through praxis. Despite practicum experiences being designed to focus on core standards (e.g. AITSL, 2013), preservice teachers may not be exposed to the nature of giftedness or concrete models of curriculum advocated for gifted students during their in-school experiences.

This background contextualises the realities that universities face in planning preservice teacher education courses. While government bodies mandate graduate standards, university course designers are also aware of the issues that confront beginning teachers as they transition from preservice courses to practice. The major concerns of beginning teachers include student management, socialisation into the culture of the school, parents and practical issues around what to teach (Gavish & Friedman, 2010; Goddard & Goddard, 2006; Wang, Odell, & Schwille, 2008). Meeting the needs of exceptional children are generally well down the list of priorities. Indeed, survival is a predominant goal, particularly as some figures suggest around 20-25% beginning teachers leave the profession within the first 5 years (Ewing & Langley Smith, 2003).

Partnerships for Teacher Education

Carrington and Bailey (2000) found that most preservice teachers consider the average student more desirable to teach than a gifted student, with a preference for students not to be studious. This research also suggests that preservice teachers lack an understanding of the nature of giftedness, their stereotypical views of the rarity of gifted students and a lack of awareness of the prevalence of students who need enhanced or enriched educational experiences beyond usual classroom programs. However, the literature indicates that preservice teachers who are involved in a gifted program, and have previous knowledge of giftedness, develop positive attitudes toward teaching gifted students than those who were not (e.g., Bangel, Enersen, Capobianco, & Moon, 2006; Lassig, 2009; Megay-Nespoli, 2001).

The aim of this paper is to describe two approaches for developing preservice teachers' understandings of the needs of gifted students. A common feature of both approaches is the significant role of the university-school partnerships. We first outline our assumptions about the nature of partnerships.

A partnership is a term that describes many types of relationships among stakeholders but fundamentally implies an arrangement in which there is a common vision, shared knowledge, and commitment to achieve a mutually beneficial outcome. Walsh (2004) proposes three key principles for examining effective partnerships: 1) the principle of subsidiarity, whereby responsibility for implementation is devolved to personnel at the local level; 2) the implementation of strategic planning as a methodology; and 3) animation, facilitation and capacity building as processes for implementation (p. 8). Zeichner (2010) envisages effective partnerships in teacher education as a "hybrid space … where academic and practitioner knowledge and knowledge that exists in communities come together in new less hierarchical ways in the service of teacher learning" (p. 89). He challenges the assumption that academic knowledge is "the authoritative source of knowledge about teaching" (p. 95) and argues for a co-existence of practitioner and theoretical knowledge as a frame for preservice teacher education. However, preservice teachers are unable or unprepared to implement theoretical perspectives developed on campus and unless supported by school community succumb to traditional socialisation processes (Allen, 2009). Traditionally, university-school partnerships rarely extend beyond the practicum where dialogue between mentor teachers, university academics and preservice teachers focus on assessment and judgment about competency for teaching. Such relationships often fail Walsh's subsidiarity principle as they are administrative arrangements organised by practicum administrative units and willing schools without consideration of close personal networks or ties that might exist between school and university personnel.

Practicum experiences for preservice teachers are usually based on an apprenticeship model where the expert teacher guides the novice preservice teacher in an asymmetrical relationship (Keogh, Dole, & Hudson, 2006). Dialogue about pedagogy or content that is of mutual benefit to all stakeholders is generally limited to the context (Darling-Hammond, 2006). Where large-scale partnerships between schools and universities exist, for instance the Gloucestershire

Initial Teacher Education Partnership (GITEP[1]), there is limited empirical research on the impact on stakeholders. The emphasis in these partnerships is the placement of preservice teachers in schools. Evidence from adaptations of the GITEP model indicates a strengthening of preservice teachers' professional knowledge and the emergence of a professional identity (Broadbent & Brady, 2013). Although devolved to the local level, well planned and with benefits to preservice teachers, the extent that these partnerships develop discursive practices that transform practices is unknown.

This current study explores the extent that small-scale partnerships contribute to transformative practices and encourage dialogue among stakeholders. The first approach, *Understanding and Educating Gifted Learners,* is based on an elective unit within the four-year Bachelor of Education and the second approach, *The Cluster Network,* explores strategies embedded into core units offered in the same program at a different campus. A previous report (Hudson, Hudson, Lewis, & Watters, 2011) described the learning outcomes achieved by the participants in the Cluster Network program.

The Partnerships

This section describes the structure of the partnerships and provides some analysis of the learning acquired by the participating stakeholders. These include preservice teachers and school personnel. We begin first by describing the elective subject Understanding and Educating Gifted Learners and second consider the Cluster Network program.

Understanding and Educating Gifted learners

This elective subject was developed as a unit in an inclusive education pathway (Table 1) and has been available for preservice teacher uptake since 2003. Although the unit is available in secondary, primary and early childhood Bachelor of Education courses, the majority of preservice teachers are drawn either from the Early Childhood course or the international student program. The enrolment figures shown in Table 1 are relatively constant with a maximum enrolment in the *Understanding and Educating Gifted Learners* unit between 9 and 24. The number of preservice teachers who have the option of selecting the elective is close to 350. Thus, the proportion of preservice teachers enrolling in the inclusive education units and in particular the gifted education unit is less than 10%.

[1] http://www.gitep.org.uk/index.html

Table 1 Inclusive education pathway

Subject Title	Enrolments 2011
Inclusion in Early Childhood Settings	34
Understanding and Educating Gifted Learners	15
Teaching Children with Disabilities	56
Teaching Students with Learning Difficulties*	26
Educational Counselling	6

**Note:* This unit has a module on gifted students

The content of the subject is now briefly described (Table 2). The scope of the course and focus is on providing a basic introduction to key ideas such as characteristics, programming and models of practice and special issues. Assessment is based on a reflective journal in which students are required to critique and elaborate on their understanding of content and provide a case report on a topic of interest with a follow-up of preparing a seminar on the chosen topic drawing on professional and research literature.

Table 2 Core content and time commitment

Module	Topic	Weeks
Characteristics of gifted students	Contemporary views of giftedness, creativity and intelligence. Theoretical models of giftedness.	2
Program planning, implementation and evaluation	School/State policy and resources, identification tools and processes.	2
Strategies for teaching the gifted student	In-class strategies such as curriculum differentiation compacting, problematisation of activities and grouping. Structural strategies such as acceleration, enrichment, early entry,	3
Curriculum models	A range of school wide curriculum models are addressed and include Autonomous learner model, Enrichment Triad, Purdue Three-stage model as well as structural implementations such as multi-age and vertical curriculum.	3
Special needs groups	The provision of appropriate interventions for girls, Indigenous students, ESL students, GLD underachievers and students from low SES are addressed.	2

Informing the delivery of the subject is the concept of praxis. Praxis is the process of engaging in authentic experiences and practices in order to understand the application of theory (e.g., Gay, 2010; Snowman, McCown, & Biehler, 2011). Praxis brings together the

notion of reflection in action and on action as indicated by Schön (1983). Hence, an approach to praxis is the use of visiting guests, including teachers and parents who related specific case histories of gifted students and the establishment of relationships with schools to provide onsite experiences with school programs and gifted students.

A critical liaison that has a powerful influence on student understanding and attitudes is an ad hoc partnership with a primary school (Bushland School) in the metropolitan area. The school has a well established gifted education program, which is based on aspirations of excellence for all students. Each year, preservice teachers enrolled in the *Understanding and Educating Gifted Learners* unit visit the school. The visit substitutes for a regular university scheduled workshop usually around week 4 or 5 of the semester. At this point preservice teachers have a grounding in the construct of giftedness, and have an awareness of theoretical models and early insights into pedagogical and curriculum practices. The program consisted of four components: workshop, examination of student work, interviewing students, and conversations with parents.

The first component began with a briefing by the principal and gifted education coordinator on the school's philosophy and structures related to implementing gifted education principles. The content was co-planned by the coordinator and the lecturer to focus on the practical aspects of administration of the gifted education program and expectations of teacher staff. In the second component, the students were tasked to review work undertaken as projects in the area of science and technology. As part of the school's curriculum, all students engage in a task where they are required to identify a problem, design an investigation, implement that investigation and reflect on the findings. Parents are able to provide some support but the task is supported by the classroom teachers as part of the planned science and technology curriculum.

Given that most of the preservice teachers were enrolled in an early childhood course, they had high interest in the work of younger children. Where possible, the third component involved the preservice teachers interviewing selected primary students about their projects. This encounter was generally a powerful experience, as most of the preservice teachers had little exposure to young gifted students whose ideas and enthusiasm for the tasks offered high engagement. The final component was the opportunity to share morning tea with several

parents who were able to talk about their children's experiences and respond to questions asked by the preservice teachers

Outcomes

The outcomes of this partnership will be discussed from three perspectives: preservice teachers, school administration and lecturer. Pseudonyms are used when referring to stakeholders.

For the preservice teachers, a deeper awareness of the purpose of gifted education and insights into the perspective of parents was recurring theme. For example, the opportunity to speak with parents made a strong impression as Mandy reported in her reflections about the case story of Bruce as related by his father (Jason). Bruce was an exceptional child whose parents had struggled to find a school that would allow early enter for him:

> Early entry would have been a more suitable option for Bruce. This is due to his exhibition of characteristics' observed by his father (Jason), which included high verbal ability, reading ability, mathematical ability and reasoning skills. The possession of a supportive family, committed to working with the school is another element that is considered when looking at early entry. This commitment is evident by Jason's endeavours to find an appropriate school for grade skipping acceleration when the option of early entry was revealed to be unachievable due to Queensland's legislation.

Melinda, in reflecting on the same scenario, spoke about the impact on her appreciation of the tribulations of parents and the optimism she had for schools that provide support for gifted students:

> I really liked visiting the school, and especially listening to the parents and how they spoke about their children (and) what they did to bring forward their children's talent. They gave me a lot of tips on what to look for, what to aspect and what not to forget. The father speaking about his son going through different phases with '*problems*', the adjustments to starting school, fitting in socially and not showing his talent. His ambitions towards his son, encourage him to be happy, to try out new things. I want to bring all this into my future classroom, to encourage the children to acknowledge themselves and not be afraid to be their true selves. It is absolutely fantastic to see a school that works so much to bring out the best in the children and everybody (teachers, parents and other school staff) working together to bring the students' potential to a visual site.

The importance of involving parents in students' education is well established but opportunities in preservice teacher education programs to interact with parents are few in number (e.g., Hoover-Dempsey, Walker, Jones & Reed, 2002). Although research suggests preservice teachers hold positive views of the role of parents, there is a lack of understanding

of how to work with parents and to appreciate their perspectives on their children's education (Uludag, 2008). In this study, these preservice teachers engaged in discussions with parents about their children, which emphasised parents as collaborators in their children's education.

The impact of the experience on stereotypical views emerged as a common theme. Many teachers and preservice teachers hold negative attitudes towards the gifted which impact on the recommendations and actions that they take in response to gifted students needs (Geake & Gross, 2008). Research also suggests that teachers with stereotypical perspectives on gifted students provide biased or inappropriate recommendations for gifted students' learning experiences (Carmen, 2011). The opportunity to witness the quality of student work and talk with young gifted students challenged these stereotypes. An international student's reflection highlights her increased awareness of the need to provide the right educational experiences that generate interest and support the development of gifted students:

> Our visit to Bushland School leaves me some matters to ponder as I walk out of the school. The meeting with parents and teachers' involved in the program also was a golden opportunity given to me as my perspective about students' giftedness is rather changed. I used to think that gifted students are born gifted without needing any proper help and consultation from teachers. They are gifted, a gift given by God for them to survive better in life. But little did I know that a gift can also be a trash to someone if he/she has never been taught to use it wisely. After the meeting, the opportunity to witness different talents and ideas from students opened my eyes broadly about cleverness. Cleverness and interest are often associated together, and proper approach to initiate interest is important to bring out the hidden ability. This school had done great job in helping the future Australian generation and I hope better in years to come.

Similar comments were made by other participants who were for the first time able to engage with gifted students and understand their capabilities and behaviours. This change in perspective augurs well for teachers on graduation becoming aware of the characteristics of gifted students and their learning needs.

A focus group interview with the principal and gifted education coordinator identified three main themes: benchmarking, dialogue, profiling the school's programs. The principal admitted that although he had an expert coordinator being able to benchmark the school's program and assumptions against contemporary research and theory was an important goal:

> it was to reach out into an academic community to reference what we were doing with gifted students here with the academic community. So I guess it was like a referencing process to help us ensure that we were on the right track. (Principal March 2013)

Related to the opportunity to benchmark, the co-planning and presentation of the school-based workshop (component 1) enabled the administrators to articulate and reflect on their processes:

> gave us a chance also to be able to - there's nothing like being able to articulate what your goals are to cement them in your own head. (Principal, 2013)

Dialogue with preservice teachers and the lecturer was noted as an important outcome in several ways. For example, the preservice teachers reviewed student work, conversed with the gifted coordinator and provided feedback to the lecturer on aspects of the children's work. The lecturer, in turn provided a written report on the children's work and focus of the school's program. This dialogue led to changes in the curriculum and brought rigour to the assessment practices of teachers.

> we audited our tasks for our Excellence Expo and we found that science was one we needed to pull up. You were able to do that by telling us things about why different areas at school had not produced ... when you and your students looked at it you looked at the brief of a science project and you probably led us towards moving to a STEM [Science, Technology, Engineering and Maths] which we have taken on board and the mathematics. … and that has really driven a lot of our work in that area and our teachers are getting involved in the STEM projects which is exciting. (Coordinator 2013)

As the preservice teachers had limited contact with most classroom teachers, it was of interest to explore how the partnership impacted the broader school community. In response to a question about the impact on teachers, the principal stated:

> I think looking for rigour in their assessment, in their curriculum delivery certainly. But I think that wasn't so much the issue but I think when it came to assessment pieces, I think people are much more discerning. I'd say that's particularly true in science and perhaps mathematics where the assessment pieces have become more rigorous. But also I think the curriculum delivery has become more differentiated.

He went on to argue that the dialogue around assessment was richer at planning meetings:

> It has been the quality of the conversations at year level meetings when we're talking about assessment tasks and things like that. I have been part of meetings that have referenced what has happened at that expo.

The administrators reflected on how the partnership helped profile the school in the eyes of parents. In the final component of the excursion to the school, preservice students met with a group of parents and the administrators to hear their stories and to ask questions. These discussions were open and often revealing of the problems and issues confronting parents of gifted students. The school was conscious of the need to ensure that parents had a voice and

that they also recognised the credibility of the programs being offered at the school. As the principal in response to a question on the main purpose of the partnership said:

> It gave us also a chance to profile gifted education with some of our parents within the community … [it helped] us embed gifted education within the community of not just within the teaching community, although that has happened, but within the greater community.

The coordinator noted the dialogue between parents and preservice teachers as an opportunity to listen to parents and reflect on their assumptions:

> There were no scripts for those meetings and it was virtually a round table coffee chat. It gave a voice to those parents on their specific needs of their students that we had accelerated and had allowed the school to trust that. Your students provided relevant questions for us to articulate our thinking. (Coordinator)

To analyse the benefits accruing to the lecturer (JJW) coordinating *Understanding and Educating Gifted Learners*, the field of experiential education needs to be explored. Experiential education is premised on the belief that subject matter should not be learned in isolation but should begin with contextualised student experiences (Brown, Collins & Duguid, 1989; Dewey, 1938; Freire, 1970). Implementing a preservice teacher education course in gifted education confronts many challenges and constraints in terms of institutional priorities, confronting preconceived conceptions of gifted students among preservice teachers and academics and competing agenda involving inclusive education. Critical to the positive reaction to this initiative was the shared and consistent perspectives provided by the school staff, parents and university lecturer. In contrast to experiences that emerge from many reflections by students returning from practicum, the experiences emphasises that the theoretical perspectives can be and are implemented in practice. The affirmation of the learning of partner stakeholders and students confirms that collaboration between university academics and teachers is beneficial and empowering of preservice teachers embarking on a career where theory and practice are connected.

Cluster Network

The second model partnership that afforded positive experiences in gifted education was based on a network of schools that host preservice teachers' engagement in a middle years initiative. Preservice teachers in this program completed four units within their BEd (primary)

degree that focus on middle years teaching, which included: (1) Middle years students and schools; (2) Teaching strategies for engaging learners; (3) Teaching students with learning difficulties; and, (4) Middle-years curriculum, pedagogy and assessment.

As part of the fourth unit (middle-years curriculum, pedagogy and assessment) a group of 22 preservice teachers were provided with a series of workshops and lectures prior to each being placed in a school to teach a gifted child. An emphasis on engaging middle years gifted school students was requested by the principals from the cluster network. The principals viewed this as a deficit in teacher education courses and requested for its inclusion. These preservice teachers had received very little instruction in the area of gifted education prior to the start of this subject. Concurrently, the preservice teachers were completing an inclusive education unit which touched upon teaching gifted students. School teaching staff nominated middle years students (from grades 5 – 7) that they deemed to be gifted to be involved in the program using the normal, albeit not uniform, criteria established within each of the schools. The task assigned to the preservice teachers was to work one-on-one with their selected student for one session per week (1 hour) over a six-week period. They were expected to identify the students' interests and in consultation with the mentor teacher and lecturer develop a supporting unit of work and assessment task. Following the six weeks, the experience then culminated in a "showcase" at the university where the preservice teachers and students presented the work undertaken to parents and associated teachers.

Comment [JJW1]: Given the nature of the findings which suggest that gifted students conform to a particular "stereotype" is there any information on how the gifted students were selected?

Comment [h2]: Hi Jim, the school did not really indicate how the students were selected. They were nominated by the teachers and although we asked, a definite response was never provided.

Detailed methodology for this study has been previously described (Hudson et al., 2011). In brief, the preservice teachers were surveyed with an open-ended pretest-posttest survey, prior to the beginning of the course and after the completion of the six-week interaction with the gifted students. The aim of the study was to ascertain the beliefs of the preservice teachers' about giftedness and document any changes. Lecturers and mentor teachers supported the preservice teachers as they worked with their allocated school student. Preservice teachers were visited by university lecturers each week and lecturers also consulted with the classroom teachers to ensure they were satisfied with the implementation and content of the lessons. Weekly workshop sessions back at university provided further opportunities for preservice teachers to de-brief, share their experiences and seek advice or points of clarification in supporting the gifted student.

The outcomes of this partnership are described in terms of the transformation in beliefs of preservice teachers with regards to their understanding of the characteristics, identification and support strategies that are appropriate for gifted students.

Preservice teachers' beliefs about gifted students

Two patterns were noticeable in preservice teachers' beliefs about gifted students, namely: (1) faster processing of information than peers, and (2) slower at times when it was necessary for the students to "think things over". Preservice teachers became more conscious of the quality of work achieved, assessed as "very high" or "excellent" by all respondents. They also singled out the quality of thinking, describing it as "high", "abstract", "complex" and "in depth." The preservice teachers saw gifted students as capable of "excelling" or "exceeding what would be expected for the average year level". Some extended the conception to include a capacity "to think with little effort" or possessed a "high aptitude for learning" or to "think differently" citing higher order or lateral thinking skills. All recognised a sense of being "good at" or high performers with some using terms like "talented". No preservice teacher singled out multipotentiality as a condition with a perception that the gifted could be "good at something" where "something" was described as academic in most instances.

In reflecting on learning traits in the post-test data, forty percent of respondents identified the speed of learning as a significant trait. This was captured in comments such as "complete set task quickly", "fast learner", and "quick to pick up on concepts". Almost a third also saw the students as highly focused, independent and compliant. Such comments reflecting this view included "independent learners", "eager to extend beyond what is expected", "always on task" and "good concentration". A small proportion (15%) acknowledged that the student could become easily bored and disengaged if the activity was insufficiently challenging.

When the preservice teachers were asked to define giftedness, two strong themes emerged in the responses: (1) higher ability levels than their peers and (2) diversity of giftedness, that is, it was possible to excel in some areas and not others. There was recognition among many of the respondents that their views "have evolved a lot"; some attributed the change to lectures and tutorials while others cited the school experience and working with the gifted student.

Conceptions of personal characteristics

Descriptions of the gifted students' personal characteristics were dominated by perceptions of students who are generally easy going, enthusiastic, confident, curious or well behaved.

Twenty percent of respondents suggested that the students were likely to have characteristics and be happy like “any other kid”. For instance, several expressed ideas similar to the following response: “Each student is still individual; [I] don’t think that all G&T students would have the same personal characteristics”. Some considered the gifted students as quiet, socially inept or withdrawn, or opinionated. The response “May be inquisitive, friendly, accepting, willing to do things and listen” captures the general theme emerging of an ideal student expressed by over sixty percent of respondents. A third of the respondents considered gifted students would be well behaved, willing, cooperative, engaged and hard working. Approximately a quarter, while acknowledging that gifted students were enthusiastic if challenged, considered that they would generally show signs of boredom. Perceptions of gifted students behaving in noisy, talkative or disruptive ways were held by very few respondents.

Beliefs about home life were relatively uniform. Half the preservice teachers acknowledged that gifted students probably came from supportive families commenting, for instance: “Very supportive home life with parents who have always taken an interest in the student’s achievements” or “Encouraging parents, resource rich environment”. There was recognition by a smaller proportion (14%) that gifted students could come from any family environment and “Gifted children can be ‘born’ to any type of family”. One comment acknowledged that “gifted children could come from any home life although the stereotype is wealthy, whole family, healthy and supportive”. Some individual comments suggested the possibility of conflict and chaos emerging from “large variety of interests/hobbies on the go at any one time”.

Approaches to identification

The preservice teachers were not asked to describe the identification process but were asked to comment on their perceptions of their students’ abilities. Three themes emerged: quality of thought; specific subject skills mostly mathematics; learning speed. Thinking skills included a sense of metacognition, abstraction, research skills, and greater awareness of the need to consider all perspectives in relation to an issue was identified by over a third of respondents. The quality of mathematical and literacy achievement was noted by about 20 percent of respondents. The capacity to learn fast was singled out by a smaller proportion of respondents while several noted that they believed the student was a hard worker but not necessarily gifted.

However, emerging from the data were perceptions of how best to identify gifted students. Signs of giftedness were said to include such indications as rapid completion of challenging work, passion for a topic, and signs of boredom when work was completed. The theme was captured in the following comment: “Observation over a period of time, student moves through work exceptionally quickly and is not challenged by lessons/tasks/assignments”. Approximately fifteen percent suggested the addition of some form of testing without elaborating.

Beliefs about education experiences

In a post survey response to the question: “What do you think the educational needs of gifted students are?” there was unanimous agreement that gifted students need to be challenged. Opportunities to engage in more intellectually stimulating material from a number of areas were broadly noted. Some discussed “pushing further so they are not bored” while others commented “extending their learning needs and challenging them to achieve things maybe they didn’t think possible”, suggesting the need to challenge children in different areas. Several responses generalised the need for challenging all students writing comments such as: “To be challenged, their capacity to learn new/difficult things may be higher than others but they need to have stimulation that is beneficial to them just as the other students do”.

Anticipated teaching strategies

When presented with the scenario: “Imagine you were teaching a class that contained a gifted student, on the basis of what you already know about teaching, what strategies would you use to teach this student?” the majority of post-test responses suggested that teaching should include some additional challenges for the gifted student. This could take several forms, for example, “inquiry learning, investigations, personal school work contracts, Blooms (High Order Thinking) questions, extra time to complete tasks if needed, ICT integration” and include higher order thinking strategies. The majority of responses aligned with the following comment “greater challenges for that student with higher expectations whilst using the same topic being explored in class”. A small proportion (10%) suggested that students could provide support to their peers while another response suggested some form of acceleration and grouping to enable students of similar abilities to work together and be extended.

Dominant concerns

When asked to identify concerns the responses broadly fell into two categories. First, there was a dominant concern about providing the appropriate level of challenge that would engage the student and produce worthwhile outcomes. For instance, this theme was evident in comments such as "letting the student 'slip through the radar' and go without the attention they require or not being able to challenge them enough", "ensuring that they are being intellectually challenged" or "extending them enough without over challenging them and squashing their love of learning". A second theme held by a smaller proportion of respondents highlighted broad concerns about the child fitting into the class as evidenced by comments such as, "also that I might single them out too much", "I wouldn't want to segregate them from the rest of class" or "that other students would question why they weren't doing it and feel 'dumb'".

Views on acceleration:

The preservice teachers provided views on acceleration in their post-test survey with the following questions "Let's assume that you are teaching a grade-6 class. How would you feel about being asked to accept a student promoted from grade 4? What would you do to accommodate the student's needs if you were in this situation?"

A dominant concern was the perception that an accelerated student would be immature, would require special support for adjusting socially and that efforts would have to be made to accommodate the child socially. Frequently, associated with this theme was a concern that the rest of the class would need guidance or support on how to accommodate the younger child. Typical of the responses was the following, "I would feel okay about it, my only hesitations would be their maturity level, and they may fit in academically but would require extra mentoring to fit in socially." The concern over maturity was further evident in the following quote, which suggested that while the student was intellectually advanced he or she would need to associate with age peers, "I would accept the student during maths, literacy and science lessons but the student needs to interact on a social and educational level with their own peers" A secondary concern was a sense that the child would be lacking in knowledge and would need revision. Some typical comments included "building a unit which encourages the building of educational materials between the year 4 and 6 year levels – a unit that relooks at some of the previously learnt/taught skills". A small number of responses implied acceptance, "I would be more than welcoming and make sure my students were too. I would need to gauge an understanding of the student's needs then go from there".

Attitudes to acceleration appeared to change substantially during the program. Most students became more accepting of acceleration as a viable strategy albeit not the only one. A pluralistic approach was favoured by most although a small proportion held ideologically within class strategies citing “inclusion is so important” with the caveat that the teacher has to have the skills to achieve this “by a classroom teacher so that the student is able to stay within the class. It has to be done properly though”.

Dealing with mixed-ability grouping

Following their school experiences the preservice teachers were asked to respond to a scenario around mixed-ability grouping: “Let’s assume that you are teaching a grade-6 class with three students who are very bright and one more who has been assessed as functioning in language and mathematics two years in advance of the class. You also have several students assessed with major learning problems. Which grouping strategy do you think would be appropriate if teams of four needed to be formed for a collaborative task? Why?”

The general response to this scenario suggested that gifted students provided a resource to help teach those who struggle. The majority of responses supported mixed-ability grouping arguing that the more able students would be able to assist the less able students. Typical of the views was the following statement: “I would put students who are of higher learning ability with some of the lower level students so they could act as a peer mentor.” Of the 28 responses approximately 1/3 argued for homogenous ability groups arguing for instance. “I could provide more assistance with the lower groups and could give more challenges to the higher groups” or “group the gifted students together so they can be given more extensive tasks which challenge their thinking”. However, about half of these preservice teachers suggested that once the gifted students had finished working together they would be assigned to other groups to help the less able students.

Prior to the unit and the one-to-one teaching experience, nearly all participants expressed excitement at the opportunity of teaching a gifted student but at same time the majority acknowledged a degree of nervousness, and sense of challenge, “I am very keen to undertake this experience but am also nervous about my ability to plan challenging and interesting activities”. Several also acknowledged the issue that much is done to support students with special learning needs so an opportunity to develop skills to help the gifted was important for their preparation as teachers.

The benefit that most perceived they would gain from this experience was enhanced knowledge of gifted learners and the capacity to develop appropriate strategies to challenge them in the classroom. Some suggested that they would gain in confidence and that it would give them new insights into the development of inclusive learning opportunities. Of the 21 who responded to this question, approximately a third indicated there were no concerns. However, the majority acknowledged apprehension about their own ability to challenge the child. One response highlighted a concern about her own knowledge "That my intellectual knowledge isn't enough to challenge the student". Several (3 participants) were concerned about logistics such as time and university commitments.

Changes in beliefs

Changes emerged at the conclusion of the unit. In general the responses were more specific with the preservice teachers being more aware of diversity among gifted students, greater awareness of personality characteristics and enhanced knowledge of teaching strategies at least if gauged by the terminology used. The experience was positive in the sense that praxis experiences that combined "real world experience" and "theory" enhanced knowledge and confidence. Knowledge of such strategies as differentiation and the opportunity to try out teaching activities under supervision has enhanced confidence for teaching gifted students.

Reflections

In anticipation of the experience, nearly all preservice teachers expressed excitement at the opportunity of teaching a gifted child but at the same time the majority acknowledged a degree of nervousness, and sense of challenge. For example, one preservice teacher stated "I am very keen to undertake this experience but am also nervous about my ability to plan challenging and interesting activities". Several also acknowledged the issue that much is done to support students with special learning needs so an opportunity to develop skills to help the gifted was important for their preparation as teachers. The experiences and changes in beliefs about a range of issues related to gifted students are now presented.

Discussion

The aim of this paper was to describe two approaches to embedding an understanding and appreciation of the needs of gifted students into the preservice course and how this could be achieved through partnerships with schools.

The Bushland School excursion has provided one valuable opportunity for students in a dedicated gifted education unit to explore praxis. In participating in the school's excellence program as evaluators of student work they obtained first hand experiences of the capabilities of students who were scaffolded by teachers implementing gifted education strategies. They discussed various options and conditions relating to parental concerns and were able to engage with parents in a useful exchange of ideas and experiences. The excursion was highly regarded by students who reported on its value. This experience coupled with the opportunity to interact with critical visitors achieved outcomes that indicated deep engagement with the content. Considering the key criteria of an effective partnership, there was a strong mutual commitment to the program evidenced by an almost decade long relationship. Partners expressed an interest in achieving a shared vision namely achieving opportunities for both staff and preservice students to benefit. The partnership was implemented and sustained around personal relationships grounded in a mutual interest in the education of gifted students.

The Cluster Network achieved similar outcomes in a different way. Working one-to-one with gifted students over an extended period of time allowed student teachers to reassess their beliefs and understandings of gifted education and the needs of gifted students. The opportunity for this to occur required both the participating schools and the university personnel to share a vision that recognised the needs of these children and that by cooperating not only did the children benefit but outcomes accrued to teachers and academics. Similar to the Bushland School experience noted above, the experience undertaken in the cluster network provided mutual benefits for all participants. Preservice teachers gained opportunities to interact with gifted students and design teaching experiences with an associated assessment task. Furthermore, they had opportunities to interact with parents at the "showcase" and discuss their students' progress. As already noted, this is beneficial for a preservice teacher as interacting with parents is often not experienced in teacher education programs. Teachers had programs designed for their gifted students and participated in professional conversations with university staff and preservice teachers. Finally, university staff had opportunities to interact with teachers and maximise their teaching and learning experiences for their preservice teachers.

While gains in confidence and knowledge are essential to implement practice the students however were aware that the experiences were not the norm. Indeed, the students in the

Cluster Network although generally enthusiastic and keen to engage with gifted students noted the constraints imposed by schools. It is also noteworthy from the pretest-survey data, that although the preservice teachers in the Cluster Group already possessed some ideas about gifted students that were naïve but this provided a good base for development and refinement. The authenticity of the "real world" experience most likely facilitated and expedited this change.

Thus, while there is scope for expansion of programs at universities that focus on gifted education, there are two issues that need to be acknowledged. The importance of live experiences through which praxis can be explored is beyond dispute. However, other experiences are also important. For instance, the learning characteristics of gifted students are generally explored in subjects relating to the learning process. Similarly differentiated curriculum planning is practiced across a number of curriculum subjects. These non-specialist units provide a more holistic approach to planning than what can necessarily be provided in dedicated gifted education units.

Conclusion

Although some universities do provide gifted education at the graduate level, the topic of giftedness is seldom, if ever, addressed in most preservice education programs (Karnes & Whorton, 1996; Nugent & Shaunessy, 2003). Even where gifted education is addressed in core programs, it is generally lecture based with preservice teachers rarely having opportunities to explore theoretical perspectives with gifted children. Gifted education is a domain where there are substantial theoretical understandings of the needs of gifted students and a repertoire of strategies that have proven useful in addressing the needs of the gifted. Yet few preservice teachers have opportunities to explore theory in practice. Additionally, the findings support the claim by Uludag (2008) that teacher education programmes where there are opportunities to engage with parents help preservice teachers become better prepared and carry positive opinions toward parental involvement.

The two cases profiled in this paper highlight the important role that partnerships provide in supporting gifted education. The strengths lie in the local implementation and willingness of stakeholders to address issues of commitment, vision, and knowledge sharing across academics and teachers as well as preservice teachers.

However, the two experiences reveal issues that provide challenges for teacher education and teacher educators. Case 1, *Understanding and Educating Gifted learners,* as a specialised, albeit elective subject, provided a substantial grounding in theoretical aspects of gifted education and challenged students to reconceptualised the capabilities of gifted students. However, its impact was constrained by the limited authentic experiences. The opportunity to engage with a cooperative partner where there was a shared vision provided a pathway for greater understanding of issues confronting schools, parents and teachers. However, it did not provide the integrated experiences of actually engaging with gifted students at a practical level as illustrated in Case 2. In contrast, the cluster network provided a work-integrated learning experience through which students were challenged to confront their assumptions about gifted students and to provide practical educational experiences. While significant changes occurred in their understanding of pedagogical practices there remained a range of stereotypical views concerning maturity and the appropriate social learning strategies that might be adopted in classrooms.

Partnerships do provide opportunities for authentic experiences through which student teachers can engage in contemporary issues. The partnerships were a response from stakeholders to address a shared vision, namely to provide preservice teachers with an introduction to issues related to gifted education and to sensitise them to the needs of gifted students. From an efficiency perspective, the partnerships provided an efficient return on investment in that the financial burden to the university and schools was minimal. However, partnerships are not indefinite and depend on the advocacy of key personnel both within the university and within the schooling sector. These relationships are sustained by local relationships and the willingness of individuals in both arms of the partnership to engage in dialogue to achieve a common goal. The cases illustrate the importance of subsidiarity as a principle for fostering strong relationships and partnerships.

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